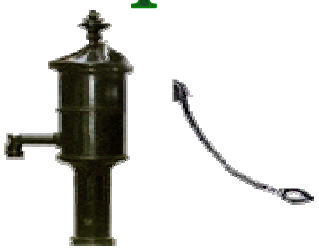
The Pump Handle



"I had an interview with the Board of Guardians of St. James's parish, on the evening of Thursday, 7th September, and represented the above circumstances to them. In consequence of what I said, the handle of the pump was removed on the following day."

John Snow, 1855

February 2005 Topics

- Influenza Update
- DREAMS
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- Smoked Turkeys With Salmonella

Influenza Update

Influenza season in North Dakota typically peaks in late January or February. As of Feb. 26, 2,533 cases had been reported to the North Dakota Department of Health (NDDoH). The number of cases reported to the NDDoH has slightly decreased from recent reporting weeks, as have the number of laboratory tests being performed each week by the Division of Microbiology. The majority of positive laboratory results have been influenza type A (70 percent). Eleven percent of positive laboratory results have been influenza type B, and 19 percent were not differentiated.

Fifteen percent of the positive influenza cases so far this year were in young children age 5 and younger, 30 percent in children from 6 to 19 years old, 38 percent in adults from 20 to 64 years and 17 percent in adults 65 and older. Eleven North Dakota long-term care facilities have reported outbreaks of influenza-like illness since Oct. 1, 2004. Eight of these 11 have confirmed influenza through laboratory diagnosis.

Typical flu symptoms include fever, dry cough, sore throat, runny or stuffy nose, headache, muscle aches and extreme fatigue. To help prevent the spread of flu, the following precautions should be followed:

- Cover your mouth and nose with tissue when sneezing or coughing.
- Wash your hands frequently and thoroughly with soap and water.
- Stay home from work or school when you are ill.

Adequate supplies of vaccine are available in North Dakota to vaccinate any person who desires a flu shot. To request vaccine for your facility, contact the NDDoH Immunization Program at 701.328.3386 or toll-free at 800.472.2180.

Information regarding influenza is available at the North Dakota Department of Health influenza website at www.ndflu.com.

DREAMS

DREAMS was developed by the North Dakota Department of Health in 2004 to enhance disease surveillance programs by providing real-time reporting of conditions, improve case management and allow for centralized data collection. DREAMS is an acronym for Disease Reporting, Epidemiological Assessment and Monitoring System. The system is accessed on the Internet and will soon be available to private providers and laboratories for transmitting reportable conditions and ordering and receiving laboratory results from the Division of Microbiology.

Phase I of the DREAMS project involved a web-based disease reporting system tested by the state health department and integrated with the Division of Microbiology to receive laboratory reports electronically. As Phase I comes to a completion, the NDDoH is preparing for the release of Phase II, which involves integrating with private laboratories in Bismarck, Jamestown, Fargo, Grand Forks, Devils Lake, Minot, Williston and Dickinson. Health-care providers and facilities will be able to report cases electronically, produce reports and review laboratory results for samples submitted to the Division of Microbiology by that facility. Trinity Health in Minot is the first private laboratory to submit electronic laboratory reports into the DREAMS system. MeritCare Health System is in the final testing stages. Phase II of the DREAMS project and integration with all remaining private laboratories is expected to be completed by the end of summer 2005.

Several other data sources currently are being integrated with the DREAMS project including animal-health disease and laboratory reporting, emergency response/ambulance runs, poison control data and syndromic surveillance.

Rabies Survival Case

A 15-year-old Wisconsin girl became the first person to survive rabies infection despite not receiving rabies prophylaxis before or after illness onset. This case is the sixth known occurrence of human recovery after rabies infection; however the five previous cases had received some form of rabies prophylaxis before the onset of illness.

The Wisconsin teenager was first diagnosed in October 2004 after being bitten by a bat one month prior to symptom onset. The girl picked up the bat after noticing it on the floor while attending a church service. While handling the bat, she was bitten on the finger. Because the girl was already symptomatic by the time medical care was sought, it was too late to administer the rabies vaccine. Once clinical signs of rabies are evident, the mortality rate among previously unvaccinated patients has been 100 percent.

The clinical management that saved the girl's life consisted of supportive care and drug-induced coma with ventilator support and experimental therapy of antivirals. The Centers for Disease Control and Prevention (CDC) advises that, despite the recovery of

this patient, no proven therapy for rabies has been established and the reasons for recovery in this case are unknown. Clinicians should not regard rabies as a curable disease based on the outcome of this case.

Almost 40 people were considered at risk of exposure to the patient's infectious secretions – including health-care workers, family members and community contacts – and received rabies post-exposure prophylaxis (PEP). PEP consists of one dose of immune globulin and five doses of rabies vaccine given over a 28-day period. Rabies immune globulin and the first dose of vaccine should be given as soon as possible after exposure, followed by subsequent doses of vaccine given on days three, seven, 14 and 28. PEP is relatively painless and safe but is extremely expensive. Rabies immune globulin and vaccine products licensed for use in the United States can be found at http://www.health.state.nd.us/disease/Rabies/Documents/RabiesVaccines2005.pdf .

Avoiding contact with wild animals and bats minimizes the risk for rabies. Pets should be vaccinated for rabies and given regular booster doses. If a person is bitten by a potentially rabid animal, (1) immediately wash the wound thoroughly with soap and water, (2) submit the animal for testing or quarantine if possible or appropriate, 3) contact local or state public health officials and (4) visit a physician for treatment and evaluation regarding the need for PEP.

For more information about the Wisconsin rabies survival case, view the CDC's Dec. 24 MMWR issue at www.cdc.gov/mmwr/preview/mmwrhtml/mm5350a1.htm. North Dakota-specific information about rabies can be found at www.health.state.nd.us/disease/Rabies/default.htm.

Smoked Turkeys With Salmonella

A positive case of *Salmonella* Newport was reported to the North Dakota Department of Health (NDDoH) in January 2005. Upon further investigation, the patient reported being one of 12 employees who received smoked turkeys as part of a Christmas present from their employer. The smoked turkeys were purchased at a local meat store and did not come with labels or preparation instructions. A second employee who received and ate the smoked turkey given by the employer reported gastrointestinal illness but did not submit a stool sample for testing. Both cases submitted samples of the smoked turkey to the Division of Microbiology for testing.

The smoked turkey samples tested positive for *Salmonella* Newport and matched DNA fingerprints with the stool sample of the positive case. Based on epidemiological investigation and laboratory testing, a close association of eating uncooked smoked turkey and *Salmonella* infection was determined.

The NDDoH contacted and interviewed 11 of the 12 employees who received smoked turkeys to determine how the turkeys were prepared before being eaten and whether or not additional employees reported being ill. Eight employees had consumed the turkeys at the time of being interviewed. Six employees reported that the turkeys were baked in the oven before being eaten, none of whom became ill. The two individuals who reported being ill did not bake the turkeys before consumption because they incorrectly assumed the smoked turkeys were already fully cooked in the smoking process. The smoking procedure used by the local meat store was a cold-smoked process at an

ambient air temperature of 145 degrees and an internal temperature of 135 degrees for approximately five hours. This smoking process does not reach effective kill temperatures, and further cooking in an oven to an internal temperature of 180 degrees is required to ensure the food is free of pathogenic bacteria such as *Salmonella*. The local meat store claimed to provide cooking instructions verbally at the time of sale, but did not supply written instructions in the form of a label. Of the remaining four employees, two had their smoked turkeys stored in the freezer. An additional employee threw out the turkey without consuming it, and one individual was unable to be contacted.

The Division of Food and Lodging distributed proper cooking and preparation instructions to all employees and notified the local meat store that labeling instructions must be included with any meat product for sale. The NDDoH received no further reports of illness associated with consumption of smoked turkeys.

Contributing authors of The Pump Handle include Melissa Casteel, Erin Fox, Julie Goplin, Tracy Miller and Kirby Kruger. For questions, suggestions or inquiries, or to be removed from the mailing list, please contact Julie Goplin of the Division of Disease Control at 701.238.2375 or by email at ***jgoplin@state.nd.us****.*

The pump handle picture in the title was obtained from the website **www.ph.ucla.edu/epi/snow.html**.